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ABSTRACT

A study was conducted to investigate personal and intellectual variables of the special supportive services population at Southern Illinois University at Carbondale and to determine reliable and valid predictors regarding the academic success of future applicants. A literature review of the development of compensatory programs and of studies that investigated predictive variables of academic success for high risk college students is presented. Forty high risk students were study subjects. Data on the students were subjected to a multiple regression analysis technique. The other variables were race, income, high school percentile rank, sex, and rankings received from an interview. The criterion employed was the overall grade point average of each subject. It was found that while other variables added significance to the criterion, ACT composite scores was the best overall predictor. (SW)

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AN INVESTIGATION OF INTELLECTUAL AND NON-INTELLECTUAL VARIABLES AS PREDICTORS OF ACADEMIC SUCCESS OF HIGH RISK COLLEGE FRESHMEN AT SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

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by

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CHAPTER ONE: PURPOSE AND STATEMENT OF THE PROBLEM

Starting as early as 1918, the idea of avoiding error in college admission by interpreting the high school records of prospective students has been investigated. A variety of current investigations have studied particular variables which would predict the academic success of college bound students. Lavin (1965) suggested three reasons for the concern of prediction of academic performance:

1) The growth in student population
2) The growth of programs designed to identify and support the training of students with outstanding talents
3) The development within the social sciences of the serious, concerted study of education

With the development of compensatory programs throughout the United States, a fourth reason might well be added to Lavin's views. That reason being the growth of marginal and high risk students applying for admission through special admission programs.

Since 1965 many universities, in an attempt to make their resources available to an increasingly broad spectrum of the college age population, have given major consideration to those students from economically and educationally impoverished backgrounds. These programs were primarily designed to provide educational opportunities for the high risk, or disadvantaged students normally denied admission

because of low high school class rank or scores obtained on college entrance examinations (Long, 1969).

Compensatory programs have made it necessary for university administrations to establish admission requirements to screen students with low probability of academic success (Nagle, Iacono, and Kunce, 1976). Bissire (1966) studied the problems associated with evaluating high risk students applying for readmission, and recommended special consideration for them. This involved the use of a special admissions committee which subjectively evaluated non-intellectual, as well as intellectual variables. The validity or fairness of such a procedure, however, has seldom received evaluation.

The purpose of this study is to investigate reliable and valid variables which predict the academic success of high risk students at Southern Illinois University at Carbondale.

In 1976, a compensatory program began operation on the campus of Southern Illinois University at Carbondale. The program, Special Supportive Services (S^3), was designed for students with academic potential from impoverished or culturally different backgrounds. An academic support system that maximizes the success of students was provided. The identification process focused on a modified admissions criteria that emphasized motivation and required a personal interview to be admitted. The specialized services offered through this program included, but were not limited to,

providing: 1) personal and career counseling and guidance; 2) curricular and instructional methods in special classes that enabled the participants to complete required prerequisite courses in a reasonable period of time; 3) a comprehensive tutorial program that would afford program participants the opportunity to compete with sufficient skills at Southern Illinois University at Carbondale; and 4) other special services that were consistent with the goal of recruiting, retaining, and graduation of the target population.

Much of the literature describing compensatory programs omitted specific data concerning the mean grade point averages of their populations. The success of such programs was defined according to the percent of retention. The mean grade point average for the Educational Opportunity Program at California State College in Los Angeles, however, was 1.78 (4.0 = A) (Long, 1969). Due to the omission of such data by other compensatory programs, below average grade point averages for such programs, more than likely, becomes the rule rather than the exception. The need for the investigation of variables which predict academic success for high risk students becomes inherently great.

At the end of the 1977-78 academic year, the mean grade point average for S^3 students was below the minimum 2.0 requirement. Further investigation showed that of the 185 students initially enrolled in the program, twenty (20) had withdrawn prior to the end of the spring semester.

Ninety-six (96), of the remaining 165, accumulated a grade point average of less than 2.0, i.e., below "C" average. Because of the low grade point average, it became necessary to investigate those variables which best predicted academic success of S^3 students for future utilization of the special admission committee.

A variety of research studies have investigated particular variables of academic success for prospective, non-risk, college students. The findings suggested that composite scores from the American College Test (ACT) or the Scholastic Aptitude Test (SAT) were the best known predictors of academic success in college (Price and Kim, 1976; Funches, 1967; and Passon, 1967). Little research has been done to determine the intellectual and non-intellectual variables which would predict the academic success of high risk students.

Therefore, this study will investigate reliable and valid variables which predict the academic success of high risk students at Southern Illinois University at Carbondale.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

In this chapter, two subject areas related to the purpose of this study will be presented. In the first area, studies will be cited which investigated predictive variables of academic success for high risk college students. A review of the development of compensatory programs will comprise the second area of review.

The debate continues concerning the effectiveness of certain variables in predicting college success for the general population. While many researchers, such as Funches (1967) and Passons (1967), contend that composite scores of college entrance examinations are the best predictors of academic success, others disagree. Munger (1957) suggested that high school grades and aptitude test scores did not effectively predict academic success in college. In a study concerning the predictors of college graduation, he stated:

> "...we must have a measure of the student's actual work in college in order to say that he is college material. Even after we have said he is college material we cannot be sure that he will graduate." (p. 221)

Brice (1957), attempted to compare subjective predictors with objective predictors of college academic success. The results of this study also rejected the contention that college entrance examinations were the best predictors of achievement. The investigation revealed that the predictive

factors of highest significance were the subjective predictions and high school class rank. These two variables together were significantly better at predicting success in college than the results of objective intelligence tests. Brice also concluded that the subjective predictors offered by instructors were of higher significance than the twelfth grade Grade Point Average (G.P.A.).

As early as 1957, Brice and Munger suggested the need for investigating variables other than college entrance examination scores and high school class rank. Recent studies have expanded this concept by investigating intellectual and non-intellectual predictors of academic success.

In 1976, Petry and Craft investigated the value of particular instruments which would best predict academic success among high risk students. For instruments, with a total of twenty-one (21) independent variables were used in the study. The instruments were:

1) Comparative school and college ability tests
2) The Thorndike Dimensions of Temperament (TDOT)
3) The Study of Values (SOV)
4) The Alpha Biographical Inventory (ABI)

Petry and Craft (1976) reported that the SAT composite score was the best predictor of overall college G.P.A., and a strong indicator of G.P.A. in professional education courses. The TDOT was the secondary contributor to the

prediction of overall G.P.A.; however, it also proved to be the weakest for predicting grades in professional education courses. The SOV was the poorest measure of the four (4) instruments used, while the ABI best predicted success in professional education courses.

The validity of the utilization of high school G.P.A. and composite scores on the SAT was studied by Robinson (1974), at the University of California in San Diego. Robinson applied the multiple regression analysis technique to develop prediction equations for first year college G.P.A. on the basis of high school G.P.A. and SAT scores.

Although the population chosen by Robinson consisted of Educational Opportunity (EOP) students and non-EOP students, the results obtained are important for this study. EOP students are educationally or economically disadvantaged.

The results suggested that high school grades and SAT scores are less predictive of college G.P.A. for EOP students than for all other students. The multiple correlation for EOP students was .283 as compared to .421 of all other students.

The high school G.P.A. factor was not significant with the University of California G.P.A., nor did it increase predictivity of college G.P.A. for this particular population. Robinson (1974), concluded, therefore, that high school G.P.A., along with SAT composite scores are not valid predictors of college grade point averages for EOP students.

Of the studies reviewed, only one discussed the establishment of specific variables to utilize when evaluating prospective high risk students for college admissions. This study, conducted by Nagle, Iacono, and Kunce in 1976, utilized an index of intellectual and non-intellectual measures as variables to predict the academic success of high risk students.

The predictability of G.P.A. for college students who successfully appealed admissions denial was evaluated by a reciprocal averages technique. There were twenty-three (23) index measures initially used in the study. Of the twenty-three measures, five (5) correlated significantly with G.P.A. The significant index measures were:

1) Intellective Measure (math placement)
2) Academic Performance (high school class rank)
3) Previous College Attendance
4) Marital Status
5) Vocational Plans

Due to the significant results obtained from this study, a trial use of the index to screen applicants was suggested.

COMPENSATORY PROGRAMS

In 1965, the idea of providing educational opportunities for high risk college students evolved. The evolution of compensatory programs throughout the United States has made it possible for normally inadmissable students to attend institutions of higher learning.

Harcleroad (1971) reported on the success of three compensatory programs in the United States. The programs were located on the campuses of California State Colleges, Stanford University, and Northeastern Illinois State University. A brief description of each of the programs follows:

THE CALIFORNIA STATE COLLEGES

This program operated on funds from the Educational Opportunity Program involving 3,150 students. The students from minority and impoverished groups were admitted to college despite low grades, provided some aptitude for college study was shown. The percentage of students who remained in college after two years was 60.1. Over one-half of those students who dropped out were in good standing and eligible to return. Forty-eight (48) percent of the students were Black; 36 percent were Mexican-American; 13 percent were Caucasian; and 3 percent were listed as Asian-Americans.

STANFORD UNIVERSITY

This program (started in 1965) selected twenty-one (21) Black students to increase minority enrollment. Despite low scores on entrance examinations or the risk of discipline problems, a faculty committee determined the group had "good university potential." In August of 1970, nineteen (19) of the twenty-one (21) students graduated.

NORTHEASTERN ILLINOIS STATE UNIVERSITY

The Project Success Program was started in 1968 with a pilot group of thirty (30) normally inadmissable students. By 1971, approximately 60 percent of the original entering group remained in college making progress toward

> degrees, when under normal conditions, none of the students would have been admitted into college.

As suggested by the description of these programs, there were no specific guidelines established to evaluate prospective students. The students simply "showed good university potential." This same subjective criterion was the basis for admission into Special Supportive Services.

The retention of compensatory programs is largely based on the academic success of the students involved. To ensure this, specific predictor variables must be determined to evaluate future high risk students seeking admission into institutions of higher learning.

High risk college students comprise the population for compensatory programs throughout the country. Such programs equalize the educational opportunities and academic supportive services for the high risk or educationally disadvantaged student (Astin, 1971). The equalization process is done by expanding the criteria by which students are admitted into a college or university.

According to Gordon (1970), fifty (50) percent of the universities had special programs for high risk students. Of the compensatory programs studied, those of value included activities such as tutorial programs; special counseling on an individual or group basis; special

financial aid programs; special field trips; preparatory summer courses; special medical services; and special housing and classroom facilities.

Along with many universities in the United States, Southern Illinois University at Carbondale has two compensatory programs in operation. One will be discussed.

Special Supportive Services (S^3) was designed for high risk, or disadvantaged students to provide them with the opportunity to attend Southern Illinois University at Carbondale. In the fall of 1977, 185 S^3 students registered for classes. Of the 165 students remaining at the end of the spring semester, 59 percent were below "C" average.

To date, only general research has been conducted on the S^3 population. To determine the success of the program, specific research is needed in all areas concerning academic performance of the students enrolled in S^3. The purposes of this study, therefore, is to investigate personal and intellectual variables of the S^3 population, and determine reliable and valid predictors regarding the academic success of future applicants.

The review of related literature revealed extensive research identifying variables, or combinations of variables that were useful in predicting the academic success of the general population of college students. The composite scores of college entrance examinations have been suggested as the best single identifying variable; while a combination of high school class rank, ACT

composite and high school G.P.A. also proved significant predictive results (Petry and Craft, 1976). The debate continues, however, concerning the effectiveness of aptitude tests used as predictors of college success.

While aptitude test scores might best predict academic success in college, other researchers contend that there are other variables which should be evaluated when selecting high risk students for college admissions. With the emergence of compensatory programs, college administrations can no longer rely on aptitude tests and high school G.P.A. as the determining factors for admissions into undergraduate programs. The validity of high school G.P.A. and test scores of high risk students for admissions should be questioned (Robinson, 1974).

CHAPTER THREE: METHODOLOGY

SUBJECTS:

Forty (40) high risk Special Supportive Services students were selected from a total population of 165 students by using a table of random numbers. The final sample consisted of 33 Black students and 7 White students. Of the 33 Black students, 14 were male and 19 were female. Four (4) White female students and three (3) White male students were also members of the sample. The income level of the students ranged from less than $2,000 to more than $12,000 annually. ACT composite scores ranged from 6 to 16.

ADMISSIONS PROCESS:

Applications of regularly inadmissable applicants were initially referred to a special admissions committee. The committee consisted of a representative from the Center For Basic Skills, the Admissions Officer, and Admissions Coordinator for S^3. This committee then made recommendations for admission of prospective S^3 students showing academic potential on the college level. The final admission status of the prospective students was then dependent upon a personal interview with a member of the S^3 staff.

The purpose of the interview was to evaluate the motivation and preparation of the students. Ten (10) characteristics were looked for in each of the students

interviewed, as follows:

1) Some evidence of ability to handle academic work (i.e., high school grades showing improvement)
2) The willingness to accept some measure of personal responsibility for achievement or failure
3) Minimal perception of self-worth
4) Emotional "toughness" evidenced by perserverance in the face of frustrating circumstances
5) Intense motivation to improve the circumstances of one's life
6) Some indication of leading potential
7) The capacity to think and plan creatively
8) The ability to distinguish realistically between that which is desired and that which is possible to obtain
9) A special talent (i.e., music, art, atheletics)
10) Success in any activity which has required sustained effort

Scoring on the interview was on a six-point scale, with one (1) being the lowest possible score. Upon completion of the interview, the students were either admitted into S^3 or denied.

PROCEDURE:

Intake information was gathered on each student enrolled in the program. After the selection of the sample population, pertinent information was taken from the intake sheets. The variables used were race,

income, high school percentile rank, ACT composite score, sex, and rankings received from the interview. S.I.U. - G.P.A. was then obtained on each student in the sample. The independent variables were used to calculate their significance in predicting the S.I.U. - G.P.A. by using a multiple regression technique.

CHAPTER FOUR: DESCRIPTION OF STATISTICAL DESIGN

A Multiple Regression Analysis was employed by using the Statistical Package for the Social Sciences (Nie, et al., 1975). The procedure was used to correlate and predict variables and to test the statistical significance of predictions. The LINEAR version of this program provided means, standard deviations, and intercorrelations of all inputted and transformed variables. The amount of variance in the criterion variable which is attributable to the predictor variables, or sets of variables, can be computed. The linear program also tested for statistical significance of the variance ratio by means of a F-ratio test.

The criterion employed (dependent variable) was the overall G.P.A for each subject in the sample. The predictors (independent variables) were limited to those kinds of data available prior to the admission of the students. The investigator was interested in maximizing the predictability from existent sources on all prospective students. Consequently, the predictor variables employed were, 1) ACT composite scores; 2) high school percentile rank; 3) race; 4) sex; 5) income; and 6) the rank each student received after the interview. The level of significance was set at .01.

The information was punched on cards and submitted into the computer in the form of categorical and continuous

vectors. High school percentile ranks, ACT composite scores, and interview ranks were used as continuous information. This means that the vectors containing these variables had the original value of the variable. For instance, the vector containing ACT composite scores had values varying between 6 to 16. The categorical vectors were defined as follows:

Black = 1
White = 2
Low Income = 3
Medium Income = 4
High Income = 5
Female = 6
Male = 7

A multiple prediction comparison of the models was performed to determine which predictors, or combination of predictors, would be most useful. All predictors were put into one model to determine the R^2 value. Model one, or the full model, took the form:

$$Y_1 = a_1X_1+a_2X_2+a_3X_3+a_4X_4+a_5X_5+a_6X_6+a_7X_7+E$$

where:

X_1 = G.P.A.
X_1 = ACT composite score
X_2 = Class percentile rank
X_3 = Interview rank
X_4 = Income (low)
X_5 = Income (medium)
X_6 = Race
X_7 = Sex
E = Error vector

This model was then used in a series of F-ratio tests to determine which variables did not lend a significant amount of variance to the R^2 value.

The categorical vector of sex was the first to be dropped in the F-ratio series. Model two contained:

$$Y_1 = a_1X_1+a_2X_2+a_3X_3+a_4X_4+a_5X_5+a_6X_6+E$$

Race was the next vector dropped from the previous model. Model three contained:

$$Y_1 = a_1X_1+a_2X_2+a_3X_3+a_4X_4+a_5X_5+E$$

where X_1 = ACT, X_2 = Class percentile rank, X_3 = Interview rank, and X_4 and X_5 = Income.

The income vector was then dropped from model three. Model four then became:

$$Y_1 = a_1X_1+a_2X_2+a_3+_3+E$$

In model five, the interview rank vector was dropped. This model contained:

$$Y_1 = a_1X_1+a_2X_2+E$$

The sixth and final model dropped the vector of class percentile rank. Model six contained only ACT composite scores:

$$Y_1 = a_1X_1+E$$

Each model was tested by F-ratio tests. This was done to determine the amount of variance accountable by each variable dropped from the full model.

In addition to the F-ratio test for significance, each variable was correlated with the other seven and the criterion. This was done to determine those variables with low correlations with other variables, and a high correlation with the criterion. Kelly (et al., 1969) suggest a good predictor is one which has a low correlation with other predictor variables, and high correlation with the criterion.

CHAPTER FIVE: RESULTS AND DISCUSSION

RESULTS

The purpose of this study was to investigate personal and intellectual variables of the Special Supportive Services population at Southern Illinois University at Carbondale, and to determine reliable and valid predictors regarding the academic success of future applicants.

The F-ratio tests for each model was significant at the .01 level. Table one contains the models, R^2 values for each model, and the F-ratio tests. According to the table, ACT composite scores, class percentile rank, income, and interview rank had the highest R^2 value. ACT composite scores, however, had the highest R^2 value of any of the variables employed in the equations.

The R^2 value for all predictors was .51, while the F-ratio was 4.73 at 7/32 degrees of freedom. When the sex vector was dropped from the full model, the F-ratio became 5.16 with 6/33 degrees of freedom. The sex vector did not lend a significant amount of variance to the total, only accounting for .02 of the variance in the full model.

The race of the subjects, accounting for only .01 of the total variance, was the next vector deleted from the full model. The F-ratio for model three against ACT, percentile rank, interview rank, and income was 6.13 at 5/34 degrees of freedom. When income was dropped from the

TABLE 1

MODELS AND F-TESTS FOR MULTIPLE PREDICTORS

MODEL	PREDICTOR	CRITERION	R^2	Df	F-TEST
1	ACT, CLASS PERCENTILE RANK, INTERVIEW RANK, INCOME, RACE, SEX	G.P.A.	.51	7/32	4.73*
2	ACT, CLASS PERCENTILE RANK, INTERVIEW RANK, INCOME, RACE	G.P.A.	.48	6/33	5.16*
3	ACT, CLASS PERCENTILE RANK, INTERVIEW RANK, INCOME	G.P.A.	.47	5/34	6.13*
4	ACT, CLASS PERCENTILE RANK, INTERVIEW RANK	G.P.A.	.45	3/36	7.56*
5	ACT, CLASS PERCENTILE RANK	G.P.A.	.36	2/37	10.45*
6	ACT	G.P.A.	.30	1/38	16.70*

*Significant at the .01 level

full model, .09 of the variance was accounted for. In model four, the F-ratio was 7.56 at 3/36 degrees of freedom.

The F-ratio for model five was 10.45 at 2/37 degrees of freedom. When the interview rank was dropped from this model, .03 was accounted for by the total variance.

As class percentile rank was deleted from the model, the F-ratio test became 16.70 at 1/38 degrees of freedom. The variance accounted for by the class percentile variable was .06.

The total amount of variance accounted for by each variable is reflected in Table two. As shown in this table, ACT, class percentile rank, and income accounted for more of the total variance than the other three variables employed.

Computer-determined intercorrelations between independent and dependent variables considered in the study are reflected in Table three.

The only variable employed in this study with a high positive correlation with the criterion was ACT. A high negative correlation between ACT and race, however, is also reflected. This correlation infers that the White students in the sample achieved higher ACT composite scores on the ACT than their counterparts.

According to Kelly (et al., 1969), the predictor variables utilized in this study would not be considered as good predictors. Whereas ACT, income, and race

TABLE 2

VARIANCE ACCOUNTED FOR BY EACH VARIABLE

VARIABLE	VARIANCE
ACT	.30
CLASS PERCENTILE RANK	.06
INTERVIEW RANK	.09
INCOME	.02
RACE	.01
SEX	.03

TABLE 3

CORRELATION MATRIX FOR PREDICTORS

	CRITERION	ACT	CLASS %TILE RANK	INCOME	RACE	SEX	INTERVIEW RANK
CRITERION	1.000	.552*	.155	-.443*	-.450*	.119	-.140
ACT	.552*	1.000	-.140	-.283*	-.489*	.080	.051
CLASS %TILE RANK	.155	-.140	1.000	-.227	.048	-.104	-.042
INCOME	-.443*	-.282*	-.227	1.000	.405*	-.198	.108
RACE	-.459*	-.498	.048	.450*	1.000	.003	.118
SEX	.199	.080	-.104	-.198	.003	1.000	.091
INTERVIEW RANK	-.140	.051	-.042	-.108	.118	.091	1.000

*Significant at the .01 level

Degrees of freedom = 38

correlated high with the criterion, there were also high correlations among the variables.

The means of each variable is shown in Table four. The mean G.P.A. of the sample employed was 1.82, with a mean percentile rank of 54.38. The majority of the students in the sample were Black females from low to medium income levels. The mean ACT composite score was 10.83, while 4.30 was the mean score received on the personal interview.

Implications from the results of this study will be discussed further in the following section of this chapter.

DISCUSSION

Through the use of the multiple regression analysis, it was discovered that three of the six variables were most useful in predicting S.I.U. - G.P.A. ACT scores, interview rank, and class percentile rank contributed most to the total R^2 of the predictors, with ACT scores accounting for the highest value. Income, race, and sex did not lend significant amounts to the total variance accounted for to make use of them as predictors. The correlations between race and income with the criterion, however, were significant.

The overall R^2 value for all predictors was .51 with ACT accounting for .30 of the variance. This implies that of the three best predictors discovered in this study, ACT composite scores surpassed all possible predictors. The ACT scores ranged from 6 to 16 with a mean of 10.83. It

TABLE 4

MEAN OF VARIABLES

VARIABLES	MEANS
G.P.A.	1.83
INCOME	.60
ACT	10.83
CLASS PERCENTILE RANK	54.38
INTERVIEW RANK	4.30

should also be noted that class percentile rank accounted for only .06, while the interview rank accounted for .09 of the total variance.

The correlations between income and race with the criterion indicated that White students have accumulated a G.P.A. higher than Black students. Also, those students from medium to high income families have a G.P.A. higher than those from low income families. The correlations between race and income with ACT composite scores inferred the same as when correlated with the criterion. There was also a significant positive correlation between race and income. This correlation suggested that low income was a characteristic of the Black students in the sample.

Whereas there were three significant correlations with the criterion, only ACT composite scores had a positive correlation with S.I.U. - G.P.A. As the ACT composite scores increased, the accumulated G.P.A.'s also increased. It should be noted that the ACT composite scores accounted for the largest R^2 value of the other variables employed in this study, thus identifying it as the best possible predictor of academic success.

The results of this study retained the hypothesis of college entrance examination scores being the best predictors of academic success (Funches, 1967 and Passons, 1967). The data obtained suggested that ACT composite scores, percentile class ranks, and interview ranks were

the best predictor variables for this population. Other independent variables employed, however, (income, race, and sex) were also somewhat significant in predicting G.P.A. at Southern Illinois University.

The researcher feels, however, that the study employed did not sufficiently investigate the purpose. The purpose being, to investigate personal and intellectual variables of the S^3 population and determine reliable and valid predictors for this particular group of students. An investigation studying those variables of accumulated G.P.A. of 2.0 or higher is suggested for future research in this area. Such a study would identify both personal and intellectual variables which best predict academic success of the S^3 population.

There were additional factors that should be noted as contributors to the criterion which were not variables in the study. They were:

1) Changes in the counseling and guidance components of the program
2) The limited number of personnel available to students
3) Confounding of data by student behaviors unrelated to their academic performance, but which effected the criterion. For example:
    a) Disciplinary action by college officials
    b) Student financial difficulties
    c) Student personal difficulties
    d) Other extraneous factors impinging on student achievement

e) The fact that the criterion employed in the sample consisted of a 47 percent successful, 53 percent unsuccessful, rather than a 50 percent split.

Because of the factors not included as predictor variables in this study, the choice of the sample population in this investigation might be detrimental. A more effective approach to the purpose of predicting variables of academic success for the S^3 population would be to conduct a longitudal study or to utilize only successful S^3 students as the sample population.

CHAPTER SIX: SUMMARY

Investigators have attempted to predict college success since the early 1900's. Much of the research suggested that college entrance examinations and high school class rank are the best predictors. Many researchers, however, have debated this theory.

Munger and Brice (1957) pioneered the idea of utilizing variables other than high school performance and aptitude test scores as predictors of academic success. Investigating this theory, many researchers have emphasized the need to discover both non-intellectual and intellectual variables which would best predict the academic success of not only the general college population, but high risk students as well.

Researchers (Robinson, 1974, and Nagel, et al., 1976) have indicated significant predictor variables, other than those which are intellectual, that have contributed to the total variance accounted for by academic success in college for the high risk college student.

With the emergence of compensatory programs, college administrations have been challenged to determine reliable and valid predictors of academic success for the high risk student population.

Compensatory programs began in 1965 starting with Stanford University. Since that time, over 50 percent of the universities in the United States have such programs in

operation. These programs were designed to equalize the educational opportunities and academic supportive services for the high risk or educationally disadvantaged student (Astin, 1971).

Special Supportive Services began in 1976 on the campus of Southern Illinois University at Carbondale. This program, like other compensatory programs, was designed for high risk students from impoverished or culturally deprived areas.

General research of S^3 showed that the mean accumulated G.P.A. was less than the 2.0 requirement, with over 50 percent of the population falling below a "C" average. Because of such findings, it became necessary to investigate personal and intellectual variables of the S^3 population and determine reliable and valid predictors regarding the academic success of future applicants.

Forty (40) high risk S^3 students were used as a sample population. All information was secured through the Special Supportive Services Program at Southern Illinois University at Carbondale. The data was then subjected to a multiple regression analysis technique, utilizing S.I.U. - G.P.A. as the dependent variable. Six independent variables were employed in the analysis. In addition, each variable was correlated with the criterion and tested at the .01 level of significance.

The results of the study discovered that while other variables added significance to the criterion, ACT composite scores was the best overall predictor.

It was suggested by the investigator that other factors not included as independent variables also contributed to the criterion. In conjunction, a change in the sample could have been used to investigate the purpose of the study.

Due to the nature of the Special Supportive Services Program at Southern Illinois University at Carbondale, research in this area must not be terminated at this point. The success of the program is dependent upon the success of its population. It is the desire of this investigator that future research be conducted for this program.

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